

WHAT IS CLAIMED IS:

1. A method of fluid drop ejection, comprising:
providing a printhead including a fluid flow path in which fluid is pressurized to eject drops from a nozzle opening, the nozzle opening being disposed in a well,
supplying fluid to the well from the nozzle opening to form a meniscus, the meniscus defining a fluid depth above the edge of the nozzle opening equal to about 1 to 15% of the nozzle opening width with the well filled with fluid.
2. The method of claim 1 comprising forming the meniscus by controlling the pressure at the meniscus.
3. The method of claim 1, comprising forming the meniscus by reducing the pressure in the fluid.
4. The method of claim 3 comprising applying a vacuum at a location upstream of the nozzle opening.
5. The method of claim 3 wherein the vacuum at the nozzle opening is about 0.5 to 10 inwg.
6. The method of claim 1 wherein the ratio of the well width to the nozzle opening width is about 1.4 to about 2.8.
7. The method of claim 1 wherein the well has a depth of about 0.15 to 0.5 of the nozzle opening.
8. The method of claim 1 wherein the spacing between well perimeter and nozzle perimeter is about 0.2 or more of the nozzle width.

9. The method of claim 1 wherein the fluid has a surface tension of about 20-45 dynes/cm.
10. The method of claim 1 wherein the nozzle opening and the well are defined by a common body.
11. The method of claim 1 wherein the nozzle opening and/or the well are defined in silicon material.
12. The method of claim 1 wherein the nozzle and/or the well are defined in a metal.
13. The method of claim 1 wherein the nozzle and/or the well are defined in carbon.
14. The method of claim 1 wherein the nozzle and/or well are defined in a plastic.
15. The method of claim 1 wherein the fluid is pressurized by a piezoelectric element.
16. The method of claim 1 wherein the nozzle opening width is about 70 micron or less.
17. The method of claim 1 including a plurality of nozzle openings, the nozzle openings having a pitch of about 25 nozzles/inch or more.
18. The method of claim 1 including ejecting drops having a volume of about 1 to about 70 pL.

19. A drop ejector, comprising:
a flow path in which fluid is pressurized to eject drops from a nozzle opening, the nozzle opening being disposed in a well, the ratio of the well width to the nozzle opening width being about 1.4 to about 2.8.
20. The drop ejector of claim 19 wherein the well depth is about 0.15 to 0.5 of the nozzle opening width.
21. The drop ejector of claim 19 wherein the spacing between the well perimeter and nozzle perimeter is about 0.2 or more of the nozzle width.
22. The drop ejector of claim 19 including a pressure control that controls pressure through the nozzle opening to fluid in the well.
23. The drop ejector of claim 21 including a fluid reservoir arranged below the nozzle opening.
24. The drop ejector of claim 21 including a fluid level monitor.
25. The drop ejector of claim 21 including a flow controller that maintains fluid level.
26. The drop ejector of claim 21 includes a vacuum source that comprises a mechanical vacuum, the mechanical vacuum arranged to reduce pressure in an ink reservoir.
27. The drop ejector of claim 20 includes a controller to maintain the fluid pressure at the meniscus in the range of about -0.5 to -10 inwg.
28. The drop ejector of claim 19 wherein the nozzle opening is centered in the well.

29. The drop ejector of claim 19 wherein the nozzle opening and well have a common geometry.
30. The drop ejector of claim 29 wherein the nozzle opening and well are circular.
31. The drop ejector of claim 19 wherein the nozzle opening and the well are defined by a common body.
32. The drop ejector of claim 27 wherein the body is a silicon material.
33. The drop ejector of claim 18 wherein the fluid is pressurized by a piezoelectric element.
34. The drop ejector of claim 18 wherein the nozzle opening has a diameter of about 70 micron or less.
35. The drop ejector of claim 18 including a plurality of nozzle openings, the nozzle openings being a pitch of about 100 nozzles/inch or more.
36. A drop ejector, comprising:
a flow path in which fluid is pressured to eject drops from a nozzle opening, the nozzle opening being disposed in a well, the well having a relatively long axis and a short axis.
37. The drop ejector of claim 34 wherein the well is an oval.